THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte ISMAEL Z. AMINI, TZE-WING KEUNG and ANDRES M. MOLINA

Appeal No. 95-4913
Application No. 07/962,425[1]

ON BRIEF

Before HAIRSTON, BARRETT and FLEMING , Administrative Patent Judges.

HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1, 3 through 6 and 8 through 10. In an Amendment[2] After Final (paper number 7), claims 1 and 6 were amended.

[1] Application for patent filed October 16, 1992.

[2] As indicated in the Advisory Action (paper number 8), the amendment to claims 1 and 6 had the effect of overcoming the indefiniteness rejection of claims 1, 3 through 6 and 8 through 10.

As indicated by the title, the disclosed invention relates to a method and system for reduced metastability between devices which communicate and operate at different clock frequencies.

Claim 1 is illustrative of the claimed invention, and it reads as follows:

1. A method in a data processing system having a first clock operating at a first clock rate and a second clock operating at a second clock rate for improving communication between a first device associated with said first clock rate and a second device associated with said second clock rate, said method comprising within said data processing system the steps of:

determining particular periods of time during which metastability may occur as a result of data being transmitted from said first device at said first clock rate and received by said second device at said second clock rate;

continually processing said data by double latching said data transmitted from said first device to said second device;

during said particular periods of time, inputting said processed data into said second device; and

during all other periods of time, inputting said data directly into said second device.

The references relied on by the examiner are:

Heckel	4,176,400	Nov. 27, 1979
Flemming	4,405,898	Sep. 20, 1983
Azevedo et al. (Azevedo)	4,868,514	Sep. 19, 1989

Claims 1, 3 through 6 and 8 through 10 stand rejected under 35 U.S.C. § 103 as being unpatentable over the admitted prior art (specification, pages 2 and 3) in view of Flemming and Heckel.

Claims 5 and 10 stand rejected under 35 U.S.C. § 103 as being unpatentable over the admitted prior art in view of Flemming, Heckel and Azevedo.

Reference is made to the brief and the answer for the respective positions of the appellants and the examiner.

OPINION

We have carefully considered the entire record before us, and we will reverse the obviousness rejection of claims 1, 3 through 6 and 8 through 10.

In the admitted prior art (specification, page 3), the solution for "avoiding metastability has been to double latch all data input into the receiving device" during all periods of time. Flemming also avoids the metastability problem by altering one of the clock outputs from the single clock generating source 42 (Figure 5) with a phase lock loop circuit (Figure 6). We agree with the examiner (Answer, page 5) that "Heckel discloses means for inputting data directly." On the other hand, we agree with appellants (Brief, pages 5 and 6) that:

> *Heckel* describes a one-clock system. The problems which Applicants desire to solve arise only in a system having two asynchronous clocks. Applicants['] method and system are directed to solving metastability problems. *Heckel* does not discuss metastability problems or solutions to these problems. *Heckel* describes a buffering system used when transmitting

> data from a teletype to a printing device. *Heckel* describes routing data from an input latch to an output latch when the data includes repeating characters. At other times, data is routed from an input latch, through a shift register, and then to the output latch. All devices in *Heckel* are clocked at the same clock frequency.

Appellants have correctly concluded (Brief, page 6) that "[e]ven if *Heckel* is combined with *Flemming*, the combination does not describe Applicants[']s method and system," especially "determining particular periods of time during which metastability may occur" (claims 1 and 6).

Azevedo teaches digital compensation of oscillator drift by providing phase alignment between two clock signals. We agree with appellants (Brief, page 8) that Flemming, Heckel and Azevedo neither teach nor would they have suggested to one of ordinary skill in the art "the claimed elements."

In summary, the obviousness rejection of claims 1, 3 through 6 and 8 through 10 is reversed.

DECISION

The decision of the examiner rejecting claims 1, 3 through 6 and 8 through 10 under 35 U.S.C. § 103 is reversed.

REVERSED

KENNETH W. HAIRSTON Administrative Patent Judge	)
LEE E. BARRETT Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
MICHAEL R. FLEMING Administrative Patent Judge	)

Appeal No. 95-4913
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Appeal No. 95-4913
Serial No. 07/962,425

Judge HAIRSTON

Judge BARRETT

Judge FLEMING

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DECISION: REVERSED

Send Reference(s): Yes No
or Translation(s)

Panel Change: Yes No

3-Person Conf. Yes No

Heard: Yes No

Remanded: Yes No

Index Sheet-2901 Rejection(s): _____

Acts 2: ____

Palm: ____

Mailed:

Updated Monthly Disk: ____

Updated Monthly Report: ____